Study Unit

Fabrics

Preview

There's something about a piece of beautiful fabric—held in the hand or draped casually over a piece of furniture—that excites the imagination. A client's interest is frequently at its peak when he or she is looking at fabric samples. Decorators are often most stimulated and creatively inspired when handling exquisite fabrics. There's something about the possibilities seen in the expanse of beautiful colors and patterns, the fall of the folds, the feeling of the fabric in the hand that makes one sense that a magical transformation is about to be made in the appearance of a room.

But beware! Fabric isn't a matter of "what you see is what you get." While your client may focus only on the glorious sight of beautiful fabrics, you must know much more about a fabric than what you can see. In this study unit, you'll take a close-up look at the facts behind the fabrics.

When you complete this study unit, you'll be able to

- Name the natural and synthetic fibers and list the characteristics of each
- Discuss the types of special fabric finishes
- Identify types of knits, yarns, and common weaves
- Explain how texture affects fabric selection
- Give examples of various types of pattern techniques in fabrics
- Identify three important factors in choosing fabric patterns for furniture
- Explain the information on an upholstery tag
- Estimate fabric yardage requirements for upholstery, fabric-covered screens, and fabric-covered walls

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Color is an extremely integral part of interior decorating. Therefore, as you work through your program, be sure to study the photos and illustrations in their color format, available as PDFs. To access the PDFs, log on to the Penn Foster Web site and click on **My Courses.** Then, click on the open-book icon next to the unit you're studying.

Fabrics

FABULOUS FABRICS

Almost every room you'll be asked to decorate will contain some sort of fabric—in window treatments, in bedspreads, in upholstery, and in other areas. The fabric may be the focal point of a room—perhaps a large window treatment or a furniture grouping—or it may be just a small seat cushion. Whatever the use of fabric, it's your job as the decorator to make sure the choice is both pleasing and functional.

Fabric Terms

Before you begin your study of fabrics, you must be familiar with certain related terms that are used throughout this unit:

- *Fabric.* A textile produced by weaving or otherwise interlacing fibers or yarn; cloth; mistakenly called "material."
- *Fiber.* The basic element from which fabric is made; a unit that can be spun into yarn or made into fabric by a variety of methods.
- *Yarn.* A generic term for a fiber that can be woven into fabric; generally refers to fibers twisted into a single thread, which can then be woven into a textile.
- *Thread.* A general term for yarns used in weaving.

Characteristics and Uses of Fabrics

How do you know what type of fabric to select for a particular application? Knowledge of the different characteristics and uses of fabric is invaluable. Let's say your client has narrowed down the many choices to two fabrics. One is an acetate; the other is an acrylic. Both fabrics can be used for draperies, but acrylic resists the effects of sunlight and would, therefore, be more appropriate. It's as easy as that! Familiarize yourself with the characteristics and uses of these common decorative fabrics. This knowledge will help you make the right choices.

Table 1 lists the types of fabrics discussed in this study unit, along with the major characteristics and most common uses of these fabric types.

Fabrics can be divided into three categories: animal, vegetable, and mineral. Textiles made from animal and vegetable sources are known as *natural fabrics,* while those made from minerals (or chemicals) are *synthetic fabrics.* Each type has its own special virtues.

Natural Fibers—The Classic Choices

Despite the impressive characteristics of man-made synthetic fibers, people still have a special fascination for natural-fiber fabrics—silk, wool, cotton, and linen. These natural fabrics are the classics, known and admired through the centuries. They're as effectively used in modern rooms as in traditional ones—and, of course, the decorator who wants to develop an authentic period decor must use the appropriate classics.

Natural fabrics are prized for the range of beautiful colors with which they can be dyed. Since they're highly absorbent, they accept dye in a way that's superior to that of synthetic fabrics.

However, all natural fibers have a certain oil content that gives the dye in the fibers of these fabrics an inclination to fade or to run when wet. In addition, natural fibers are subject to rot, mildew, and parasites. Moths, for example, will happily skip over a synthetic carpet to set up housekeeping

Table 1

CHARACTERISTICS AND USES OF FABRICS

Fabric	Characteristics	Uses
Acetate	Weak; silk-like; some colors fade; resists mildew; weakened by sun	Some upholstery, draperies
Acrylic	Weak when wet; abrasion-resistant; dyes well; resists mildew and the effects of sunlight; tends to pill	Upholstery, draperies, wallcoverings
Cotton	Strong and absorbent; dyes well; wrinkles easily; requires laundering; shrinks unless treated; affected by mildew and sunlight	Unlimited decorative uses
Fiberglass	Strong; doesn't absorb moisture; has little stretch; is easily cleaned; fibers tend to break at folds	Draperies
Linen	Strong, durable, and somewhat stiff; can show wear at edges; dye may wash out or fade; shrinks unless treated	Unlimited decorative uses
Metal	Used with other fibers; strong; nontarnishing when coated with plastic	Decorative trim
Nylon	Strong and elastic; resists abrasion; dyes well; fades in sunlight; resists wrinkles and mildew; can pill; can be clammy in cold weather	Upholstery, curtains
Olefin	Strong but bulky; resists abrasion; dries fast; resists mildew and soil; heat-sensitive	Upholstery filler, backing, and lining
Polyester	Strong and versatile; resists wrinkles, abrasion, stretching, and shrinking; resists mildew; can pill; can be clammy in humid weather	Unlimited decorative uses
Rayon	Weak, soft, and comfortable; dyes well; may shrink; affected by sunlight	Unlimited decorative uses
Silk	Strong, lightweight, absorbent, and luxurious; dyes well; resists mildew; weakened by sunlight and dampness; stained by water spots	Unlimited decorative uses
Triacetate	Weak; silk-like; resists shrinkage; wrinkles; fades	Some upholstery, draperies
Wool	Strong, resilient, and warm; dyes well; shrinks; attracts moths unless treated	Unlimited decorative uses

in a wool-upholstered chair. Guarding natural-fiber fabrics against these potential problems is generally considered a small price to pay for their enduring beauty.

Silk—The Royal Fabric

Silk is a fabric made from the cocoons of worms. The most common silk is made from worms that feed on mulberry leaves (Figure 1). It takes 36,000 silkworms 60 days and one ton of mulberry leaves to produce 12 pounds of *raw silk*. Raw silk reduces down to even less *fine silk* (refined silk), so if you ever question the high value placed on silk fabric, just remember these figures.

FIGURE 1—The worms that make the cocoons used in the manufacture of silk feed on the leaves of mulberry trees.

Raw silk is untreated silk just as it's unreeled from its cocoon.

Silk accepts dyes better than any other fabric. Because of this ability, it can be produced in the most beautiful assortment of colors possible. Intricately detailed patterns can be produced crisply and clearly on silk, and no other fabric has its elegant, soft sheen.

As desirable as silk is, it doesn't stand up under constant use. Raw silk is very thin and fragile, and even heavier silk velvet and brocade fabrics don't take well to heavy use. Velvet, satin, brocade, chiffon, and taffeta were all originally made from silk. These fabrics are now produced from synthetics, and are therefore much stronger. For example, *shantung* is a nubby fabric originally woven from Chinese silk. Now it's made from rayon.

The rich colors, delicacy, and high cost of silk have earned it the nickname "the fabric of royalty." This high-quality fabric sets a tone of formality and elegance in a room. Because of its special qualities and regal associations, many people would love to have silk used in their interiors. However, it should be used only where it will be subject to a minimum amount of wear from sitting, rubbing, or pulling.

The Origin of Silk

The history of silk has been shrouded in mystery. Legend says that the Empress Si Ling Chi of China discovered silk more than 5,000 years ago. She was sitting under a mulberry tree on a beautiful day in the palace garden, having a hot cup of tea. From the branches of the mulberry tree, a cocoon floated down into her cup of tea. Fascinated, the Empress watched, as a beautiful, very strong, white thread unraveled itself in her cup. In her wisdom, she discovered a magnificent use for this thread.

Silk was soon known as the cloth of emperors. It was such a status symbol of wealth that common people were forbidden to wear it. By the fourteenth century B.C., silk production was one of the most profitable features of the Chinese economy.

The highly prized fabric was used for musical instruments, fishing lines, bowstrings, and luxurious paper. It was even used as currency, since trade was more common in those days and silk was universally recognized as very precious. Civil servants in China were paid in silk. Rulers bestowed quantities of silk on their subjects, when they wished to give them a generous reward.

Understandably, the Chinese zealously protected the secret of silk for over 2,000 years. It's known as one of the most closely guarded secrets in recorded history. So protective were the Chinese of this secret that the penalty for smuggling cocoons, silkworm eggs, or even mulberry seeds was death.

Wool—The Fabric of Elegance

Wool, made from thin or thick fluffy wool yarn, is very soft to the touch. It's particularly valued for its durability and for its ability to keep its shape. Wool continues to be considered a fabric of quality, although its use in room furnishing is increasingly limited.

Wool is an animal fiber with a number of highly desirable characteristics, foremost of which is its resilience. Because it adjusts so easily, wool upholstery always looks taut and unwrinkled, and won't develop stretch waves with use.

Another fine characteristic of wool is its ability to accept color beautifully. Wool resists spots and stains if given immediate care. And most important, wool is one of the strongest, longest-wearing fabrics. It's exceeded in strength only by linen.

The type of wool yarn and its construction determine the type of finished woolen fabric. *Worsted wool fabrics* (Figure 2) are produced from yarns that have been combed to remove short, loose fibers. The resulting yarn is firmer, tougher, and thinner than uncombed woolen yarn. Worsted fabrics, therefore, can be more tightly woven. They're less bulky and much smoother and stronger than nonworsted fabrics.

FIGURE 2—The worsted wool in view A has a smoother appearance than the nonworsted wool in view B.

Of course, wool does have a few limitations:

- Unless woven in a very tight weave, it's appearance is casual and not appropriate for traditional, semiformal, or formal decorating schemes.
- The price of good wool upholstery fabric often prohibits its use.
- Unless wool is well processed, it can emit an undesirable odor, especially in damp climates.
- Some people are allergic to wool.

The furry animal coats of camels, vicuñas (an animal related to the llama), and Kashmir goats produce different types of wool. These wools are particularly valued for their softness and are seldom, if ever, worsted. Camel's hair, vicuña, and cashmere wools are all more expensive than the finest of other wools. You might use these luxury fabrics on rare occasions, but only where they won't receive much wear, such as in decorative pillows.

Cotton—The Popular Favorite

Almost everyone—from decorators to their clients to the general public—likes cotton. Why? Because it's so easy to use and to live with this versatile fabric, which is made from the flower of the cotton plant (Figure 3).

FIGURE 3—Cotton Plant

Cotton soils and wrinkles easily, but it's also easily cleaned and ironed smooth again. Because cotton readily absorbs moisture and releases it quickly, it has always been considered an ideal summer fabric. Since it's simple to launder without harming the fiber, cotton fabric is great for slipcovers and other items that receive heavy use or require frequent cleaning (Figure 4).

FIGURE 4—The cotton curtains on these windows can be laundered and ironed to look crisp and neat.

While cotton doesn't wear as well as wool, it's nevertheless the favorite fabric of most upholsterers. Cotton has several wonderful properties:

- Cotton doesn't unravel when cut.
- It stretches evenly, without leaving puckers.
- It feels better to the touch than many wools.
- It accepts dyes well.
- It doesn't fade.
- It costs less than silk or wool.
- It doesn't cause allergies.

Some heavy cotton weaves wear quite well. For example, *cotton corduroy,* sometimes referred to as *cut velvet,* wears very well. *Polished cotton* (Figure 5) is a strong cotton fabric that has a dull or bright sheen either in the weave or in the finishing. Heavy polished cotton is used for upholstery, while lightweight polished cotton is used for quilted fabrics, bedspreads, and draperies. Batiste (buh-TEEST), broadcloth, calico, chintz, cretonne (KREE-tawn), denim, gingham, percale, velour, velveteen, and voile were all originally fashioned only from cotton. Seersucker, a cotton fabric with a crinkled surface, is now made from rayon.

Cotton Incorporated is an organization with the goal of ensuring "that cotton remains the first choice among consumers in apparel and home products." Their logo, shown here, is widely recognized as the symbol for cotton fabrics.

FIGURE 5—The curtains and flowered throw pillows in this living room are made of polished cotton.

Linen—The Well-Recommended Classic

Ancient Egyptians wrapped their dead in cocoons of *flax* (fabric made from fibers of a plant), and the fabrics covering those mummies have survived to this day!

Linen (Figure 6), made from the stems of flax, is the oldest textile fiber. It's the strongest of all natural fibers, and it's an excellent choice when you need a sturdy fabric that's lightweight in appearance. Two types of linen are *toile* (twahl) and *toile de Jouy* (twahl-duh-ZHWEE). Toile is a finely woven linen with transparent qualitites. Toile de Jouy is patterned with scenes printed in red, green, or blue on a light background. It's a longtime favorite for upholstery and draperies.

FIGURE 6—Linen is a strong, lightweight fabric that's used in both draperies and upholstery.

Despite these positive qualities, however, the strong cellulose fibers of linen are very difficult to dye. A beautiful printed linen fabric on a chair may appear to fade on the seat and back area in a very short time.

Actually, the problem isn't fading; rather, the dye, which was never able to saturate the fibers, is simply wearing off. In such a case, the actual fabric will far outlive its pretty print. Even when linen is dyed evenly, plan on some fading. This fading isn't always a negative factor since it can give linen a very "comfortable" appearance. But you should consider this point before deciding to use linen on a particular item.

With today's technological advances, some linen is dyed well enough so that the print will hold up nearly as long as the fabric. To test the linen, simply turn it over. If the design colors showing through on the back are at least half as strong as the top pattern, the colors should last. On most linens, the dye that creates the design simply "sits" on top, and the back is off-white with little trace of dye. In such a case, either choose another fabric or switch to a natural colored linen and add interest by using patterned throw pillows of another fabric.

The Roots of Linen

Linen is the earliest woven fabric made from a vegetable. When people lived in caves, they first used the skins of animals as clothing. As nomadic communities developed, herding sheep across the plains of Eastern Europe during the historic migrations, they began to use wool for clothing. Later, as cities came into existence, people cultivated the land. One of their crops was flax. It was the fiber from this flax that they used to make linen.

Synthetics—The Great Pretenders

What looks and acts like natural fiber but isn't the real thing? Synthetic fiber. *Synthetic,* or *man-made, fibers* attempt to duplicate the advantages—and eliminate the disadvantages—of natural fibers. And to a great extent they've succeeded. The color brilliance of silk and the beautiful wearability of wool and linen aren't exactly equaled by synthetics, but their versatility and lower prices make them very popular—even in the most expensive interior.

Frequently, synthetics are mixed with natural fibers to derive the best qualities from both. These fabrics are called *blends.* For example, you might see a fabric labeled 65% polyester and 35% cotton. This particular fabric has the comfort and breathability of cotton, along with the strength of synthetic fibers. Blends try to take advantage of the strengths of all elements in the blends.

Cellulose Fibers

Scientists have learned how to produce fibers from *cellulose,* the fibrous substance of plant life. This fiber, produced from wood pulp, is called *rayon.* Common cellulose fabrics include rayon, acetate, and triacetate.

Rayon, originally called *artificial silk,* was first manufactured in the 1890s by a French scientist. The scientist was able to reproduce the chemical actions of a silkworm feeding on mulberry leaves and spinning a cocoon. Because rayon is made from plant material, it's sometimes called a man-made natural fabric. Rayon dyes better than other synthetics, but it doesn't wash well. In addition, it tends to wrinkle.

The Creation of Synthetic Fiber

Frustration over other fabrics led to the new alternatives we have today. The trouble with cotton and linen was that they wrinkled so easily. Silk was elegant, but required such delicate handling. Wool was very warm and practical, but if you washed it, it shrank. It was also irritating to the skin and had to be protected from moths. That's why rayon was developed in a lab a century ago. It was the first manufactured fiber—something made to order for our needs.

The first attempt to create an artificial fiber was launched around 1664 by an English naturalist, Robert Hooke. He proclaimed that he wanted to create a fiber that would be "if not fully as good, nay better" than silk. Despite his vision, Hooke didn't reach that goal. Neither did anyone else for over two centuries.

It wasn't until the early 1880s that an artificial fiber was created by Sir Joseph W. Swan, an English electrician and chemist. He wasn't trying to create fabric at all. He wanted to improve the filament in Thomas Edison's new incandescent lamps. Edison was happy to incorporate these excellent fibers into his lamps. Swan's wife liked them too. She started crocheting with them. The results were so interesting that in 1885 Swan held an exhibit in London of the fabrics his wife crocheted from this new fiber. But Swan was more interested in electrical lamps than textiles, so he didn't pursue it, and in 1885, it was far more difficult for a woman to pursue ambitions of her own. So the development of synthetic fabric was abandoned.

It wasn't until 1889 that the first commercial production of a manufactured fiber arrived. A French chemist, Count Hilaire de Chardonnet, marketed his fabric as "artificial silk" at the Paris Exhibition and caused a worldwide sensation. Today he's known as the "father of the rayon industry."

Acetates are truly synthetic fabrics, since they contain synthetic protein (cellulose). Acetates are available in a wide range of colors and a variety of weaves. One step in the process of producing acetate includes dissolving particles in *acetone,* a substance found in nail polish remover, some perfume, air fresheners, and bug sprays. Therefore, any of these acetone-based products can make holes in the fabric by dissolving it. Acetates normally have a high luster and are frequently used alone or in combination with other substances to create satin, taffeta, and other silk-like fabrics. A major drawback of acetates is their inability to be cleaned well, but they don't rot and they do hold colors well.

Triacetates are related to acetates, but they include more synthetic cellulose to give them extra body. In addition, because less acetone is used in triacetates, they can withstand greater amounts of heat, which means that they can

be treated for permanent press. Triacetates fall in beautiful gathers and can be cleaned or washed without particular effort or concern.

Nylon

Nylon hit the world with a splash in 1939 when its inventor (Du Pont) used it for women's hosiery. Until then, women's stockings were made only from silk. Silk stockings were extremely expensive, and because of unrest in Asia, the needed silk became almost impossible to obtain. Nylon has been called the "miracle fabric." Shortly after being introduced as hosiery, nylon went to war in the form of parachutes.

Nylon threads are made by spinning and stretching yarns from a syrup of chemicals. When color is added to the liquid chemicals, the fabric is usually colorfast. Due to its softness, nylon's use is usually limited to clothing. However, when it's blended into upholstery fabric, it adds sheen and often increases the wearing power of the fabric.

Polyester

Polyesters are made from unlikely products—petroleum, coal, air, and water. But they're the synthetics most frequently used by decorators. Polyester fiber is made into many different fabric types.

Polyester is frequently added to natural fabrics. When added to wool, for example, polyester adds washability and greater resistance to spots and stains. When mixed with cotton, it helps resist rotting and spotting, and adds wearability and the ability to retain heat-set creases.

Polyester may also be used as filler in such items as quilts and comforters (Figure 7).

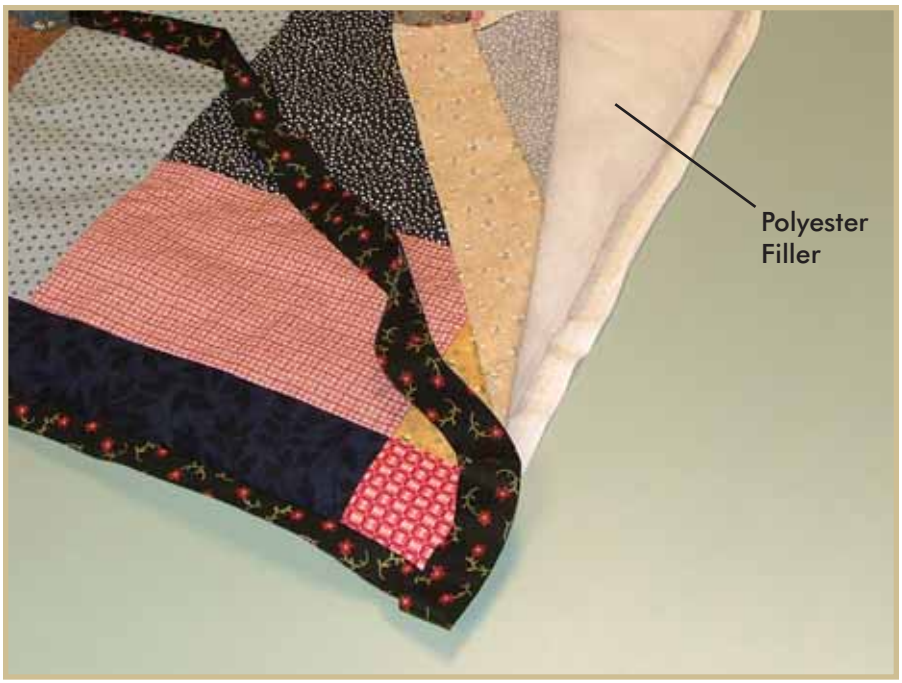


***FIGURE 7—The lining in this quilt is made from polyester. The term used to identify such a material is* batting.**

Acrylic

Acrylics are synthetic substitutes for wool. They're also commonly blended with other fibers as well. When added to wool, acrylics make the fabric easier to care for, lighter in weight, and far more reasonable in price.

Fiberglass

Fiberglass is made from interwoven, fine threads of glass. It lasts well and won't fade, burn (it melts), spot, or stain. Once thought to be the ultimate drapery fabric, fiberglass is now rarely used by professional decorators. First, its appearance is usually less than desirable. Second, fiberglass is harsh to the touch and can actually cut the skin when handled. Bits of the glass fabric have been known to cause injury to people. The low price of fiberglass fabric shouldn't overshadow its negative qualities for interior decorators.

Olefin

Olefin is manufactured from either polyethylene or polypropylene. The materials used to make olefin are first melted and then forced through a device similar to a large showerhead. This process forms a long fiber.

Olefin is most commonly used as a filler in comforters, pillows, and other such elements. It may also be used as a backing on quilts or quilted fabrics. Olefin also makes an excellent lining material, and it's a good thermal insulator. Keep this product in mind when decorating large expanses of windows.

Metal

Metallic strands may be added to many fabrics for trim that gives a rich look. Too much metal fiber can make a fabric look gaudy, however. Avoid its use in decorating except as opulent trim in period furnishings. Never recommend fabrics with metallic fiber for everyday upholstered pieces, because they're scratchy and they catch clothing. The once-popular drapery fabric with metallic thread has now been replaced by softer, more subtle materials.

In the next section of this study guide, you'll learn about fabric finishes and types of weaves in cloth. Before going on, however, please complete *Self-Check 1* to test your understanding of the material you've just read.

Self-Check 1

At the end of each section of *Fabrics,* you'll be asked to pause and check your understanding of what you've just read by completing a "Self-Check" exercise. Answering these questions will help you review what you've studied so far. Please complete *Self-Check 1* now.

1. If you're most interested in beautiful color in your fabrics for a particular job, would you select a natural-fiber fabric or a synthetic? Why?

   _____

   _____

2. Describe a worsted wool fabric and explain its characteristics.

   _____

   _____

3. What fabric is considered the strongest of all natural-fiber fabrics?

   _____

4. Why is polyester often added to natural-fiber fabrics?

   _____

5. Which would you expect to be more expensive—a wool fabric with acrylic blended into it or a fabric of 100% wool?

   _____

Check your answers with those on page 53.

FINISHES AND WEAVES

You're undoubtedly familiar with the terms *permanent press* and *wash and wear,* but do you really know the difference between the two? In this section, you'll learn that difference, along with a number of other special fabric finishes that you should look for when shopping for a client. You'll also study about the different types of yarns and the methods of weaving them into fabric.

Finishes

Permanent-Press Finish

The terms *easy care* and *wash and wear* aren't related to fabric finishes. Rather, they refer to the characteristics of a particular fabric. For example, nylon and polyester are easy care because they require little or no ironing after they're washed. Cotton and linen, on the other hand, aren't easy care. They require careful ironing.

Some fabrics are treated to make them easier to care for. For example, in the *permanent-press* process, a fabric is treated with a chemical and heat. This process makes the fabric less likely to wrinkle. In addition, the process allows pleats and permanent wrinkles to maintain their crisp appearance—their "permanent press."

The permanent-press finish is something you should consider when recommending fabrics for bed linens, such as comforters, and for curtains and draperies.

Memory

Memory refers to the ability of a fabric to recover its original state after being stretched. The stretching takes place in draperies after a few days of hanging after being installed. Better-quality fabrics generally have good memory qualities.

Soil Retardants and Water Resisters

After you and your client have spent considerable time deciding just what type of fabric to use on a piece of furniture, you don't want its appearance destroyed by unsightly stains or water spots. That's why *soil retardants* and *water resisters* are often added to upholstery materials. Soil retardants temporarily prevent dirt and oily stains from penetrating into fabrics. Therefore, these stains can be removed easily if the person acts quickly. Water resisters make fabrics less able to absorb water and thereby protect the fabrics from moisture and water damage.

To be totally effective, such treatments should be made by the fabric manufacturer. Rarely will your client be able to give professional fabric protection with a commercial finish product. It's extremely difficult to spray evenly, and the fabric may eventually show uneven coloration. However, when soil and water resisters are added to fabric during manufacture, they're often very effective. In fact, the use of pale colors on upholstery coverings has become practical because of such protective finishes.

When decorating yachts and outdoor environments, look for *water/weather-resistant* finishes on fabrics or ask that the fabric you've selected be treated before delivery. Keep in mind that a water-resistant finish will "thicken" the fabric somewhat, so choose fabric weights accordingly.

Fire-Retardant Finishes

Fire retardants are added to upholstery and window fabrics as a matter of law. This process slows down the rate at which a fabric ignites, slows down the rate at which a flame will spread, and acts to help the fabric extinguish itself.

Be attentive when using unusual fabrics. For example, inexpensive burlap from India was once popular for low-cost draperies. Because the fabric wasn't imported as a household upholstery material, it didn't come under government flammability regulations. When it caught fire, the untreated burlap (made of dry plant fibers) went up in flames quickly. As a professional decorator, you should have such fabrics treated with a fire retardant, especially if they're used in large pieces such as draperies.

Weaves

Weaving as an art has held a special fascination for humankind through the ages. Many people find weaving and other forms of fabric making a rewarding activity. Today, machines make possible the great variety of fabrics available to decorators.

Yarns

The first thing to affect the appearance of a fabric is the type of yarn from which it's woven. *Yarns* are the long strands of material used to weave or knit fabric. They can vary considerably, and when they do, the finished textiles vary as well.

The way a yarn is made determines the appearance, strength, and durability of the finished fabric. Figure 8 illustrates the types of yarn discussed in this section.

Plain yarn may consist of only a single strand or of several strands twisted together to form a heavier and/or bulkier strand. Each strand of yarn is called a *ply.* Therefore, a *two-ply yarn* is one that has two strands twisted together to form a larger strand.

Slub yarn results when a strand is twisted in varying degrees of tightness, leaving thick and thin areas along its length. All slub yarn fabrics have textured surfaces. Haitian cotton and antique satin are fabrics containing slub yarn.

Tweed yarn has small flecks of fibers in contrasting colors added as the yarn is being spun. Wool is the fiber associated with this process, because wool fibers hold together well and don't allow the colored flecks to be easily pulled or rubbed off. Tweed is especially popular in casual upholstery fabrics and in fabrics for business decorating.

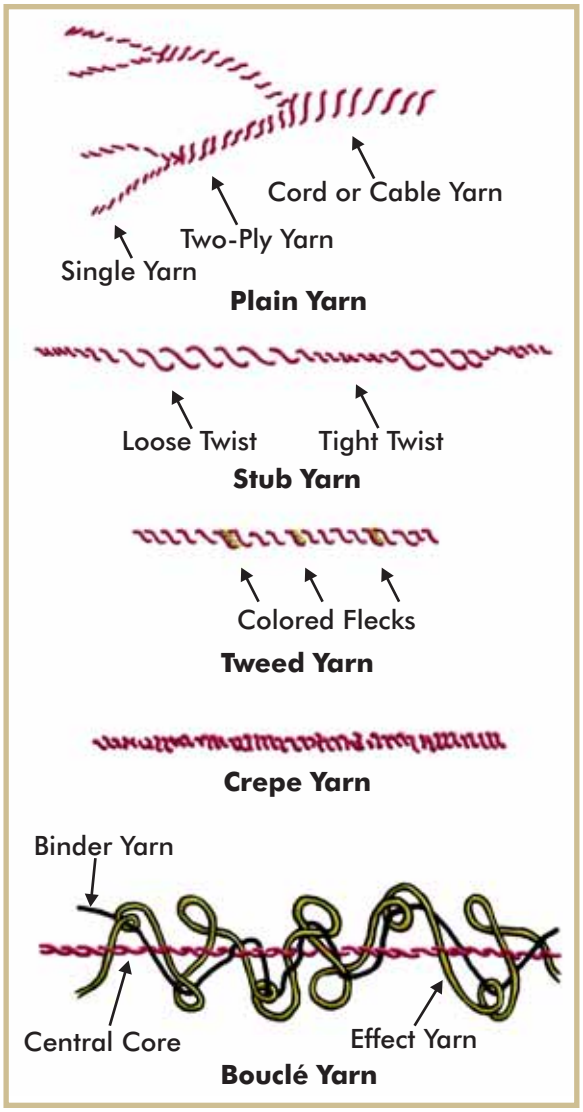


FIGURE 8—The type of yarn used in weaving affects the appearance of the fabric.

Crepe yarn is very tightly twisted to the point of becoming crinkled rather than smooth. Crepe yarn generally produces a light- to medium-weight fabric sometimes used in bedroom furnishings.

Bouclé (boo-CLAY) *yarn* is made from several threads. These threads are looped together to form one textured, special-effect strand. Because its loops are loose and snag easily, bouclé is rarely used for decorating purposes, except occasionally in drapes.

The Weaving Process

In the weaving process, single strands of yarn are stretched lengthwise on a loom, all running in the same direction. These strands are the *warp* of the fabric (Figure 9). Then, additional threads are woven in and out, crossing the warp threads. These strands are called the *weft.*

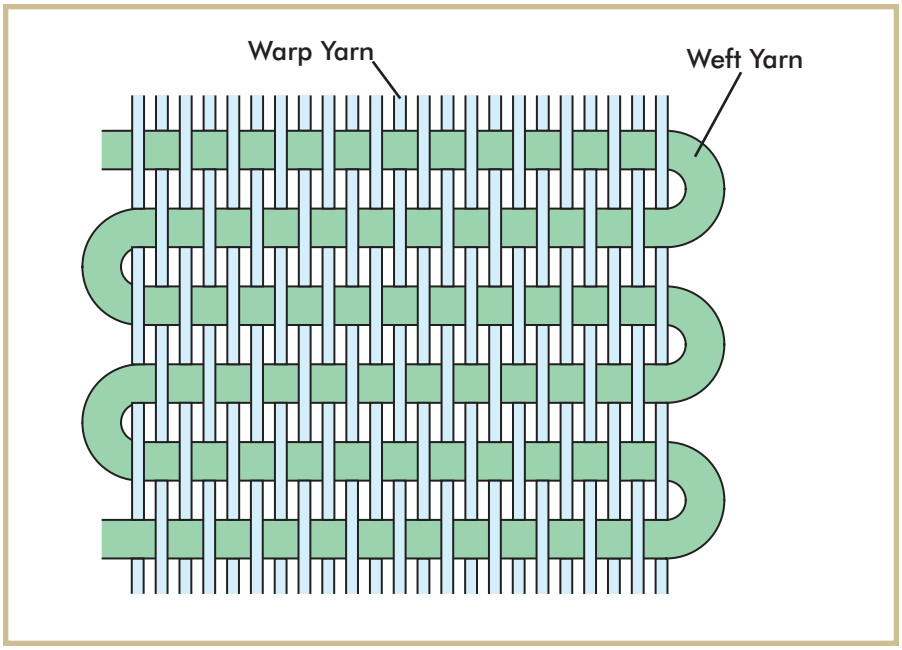


FIGURE 9—The threads that run lengthwise in a woven fabric are called the warp; the threads that run crosswise are called the weft.

There are numerous ways to weave strands of yarn together. It's how the weft yarns are woven over the warp and the differences in warp and weft strand construction that determine the particular weaves. Each weave results in a very different appearance to the finished fabric (Figure 10).

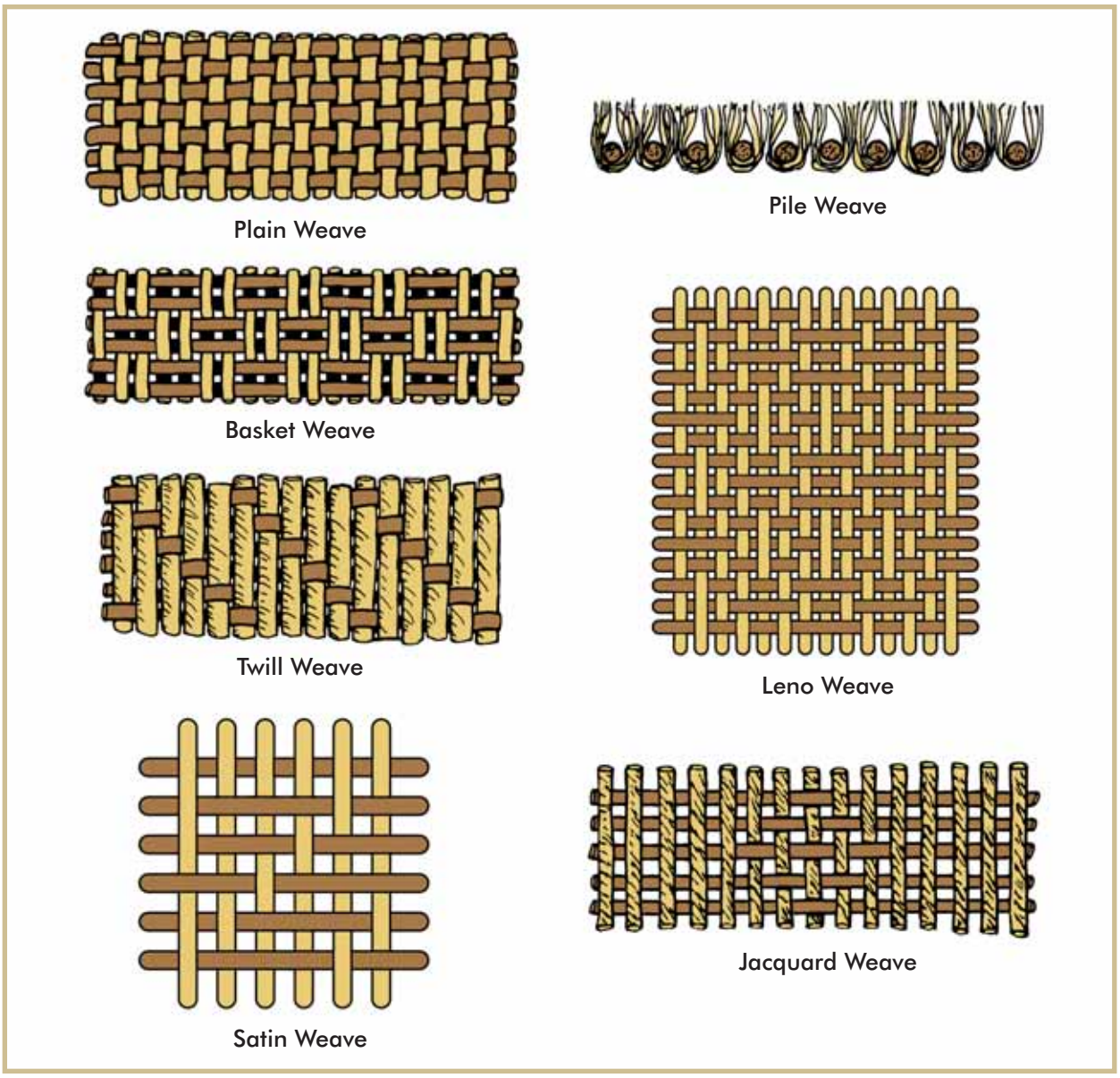


FIGURE 10—Carefully study the illustrations of these weaves as you read their descriptions.

Some weaves are strong and sturdy; others are loose and airy, depending on the fiber, yarn, and weaving method. By using two or more colors of yarn, patterns can be made during the weaving process. Plaids and checks are good examples of woven patterns. And, as a decorator, you must be ever aware of patterns that you may or may not want to add to a decor. Even when a single-color yarn is used, the way in which it's woven can create a pattern. Let's examine the different weave types.

Plain Weave

A *plain weave* is made by passing weft threads alternately over and under warp threads of the same thickness. The result is a smooth, even surface. Alternating the position of the weft yarns in each horizontal row holds the yarns in place, making the fabric structure secure as long as the yarns remain unbroken.

Muslin, taffeta, and *broadcloth* are examples of fabrics with a plain weave. A ribbed effect can be achieved when the threads of the warp are thicker than the threads of the weft, or vice versa. The weave is attractive, but the *ribs* (raised parts of the fabric's surface) are more vulnerable to abrasion than the flat surface of a plain weave. Therefore, a ribbed plain weave may not wear as well as a flat plain weave.

Basket Weave

The *basket weave* is a variation of the plain weave. In this weave, two or more vertical warp yarns are passed under the same number of weft yarns in alternating rows. The result is a distinctive woven effect.

Twill Weave

In a *twill weave,* warp threads are exposed in a pattern to create diagonal ribs. The effect is a regular steplike appearance. *Gabardine, denim, flannel,* and *serge* are examples of fabrics with a twill weave.

When the direction of the diagonals of twill weave is changed regularly from right to left and back again, the result is a broken twill pattern called a *herringbone weave.*

Twill fabrics are tightly woven and have better soil and wrinkle resistance than plain woven fabrics.

Satin Weave

In a *satin weave,* weft threads go under so many warp threads at a time and then tuck over so few that the fabric appears to be made entirely of threads running in one direction. This weave is what gives satin its smooth, shiny appearance.

Satin, antique satin, sateen, satin-backed crepe, and *damask* are made from variations of the satin weave. The strength of this weave depends on the fiber and the tightness of the weave.

Pile Weave

Pile weave differs from those just discussed because of its more complex structure. Instead of having threads or yarns drawn smoothly over each other, some of the threads in a pile weave are pulled upward to form loops. The resulting fabric has a visibly looped surface, such as that in terry cloth used in towels. If the loops are cut, the surface fibers appear thick and smooth, and the result is called *velvet, velour, plush,* or *chenille* (shuh NEEL). Chenille fabric is made by weaving a thick, soft weft and a small hard warp which binds the weft threads tightly together. Split into strips, the cut edges of the yarn form a plushlike surface. Sometimes some of the loops are left uncut, producing an interesting patterned surface, as shown in Figure 11.

FIGURE 11—Uncut loops of pile weaves produce interesting patterns on this sofa. (Reprinted with permission from Pearson Co., a division of Lane)

Leno Weave

The open, airy effect of *leno weave* is produced when pairs of warp threads are twisted around the woof threads in a figure eight. The resulting fabric is very lacelike. It looks delicate but is actually remarkably strong. Sheer drapery fabrics and marquisette are typical fabrics made from leno weaving.

Jacquard Weave

A special loom, invented by Joseph Jacquard in the early 1800s, revolutionized fabrics for interiors. The mechanized production of *jacquard* (jak-ARD) fabrics allowed every home the possibility of showing off beautiful "tapestries" previously found only in the homes of royalty. One example of such a "tapestry" weave is shown in Figure 12.

FIGURE 12—This colorful chair is upholstered with tapestry fabric. (Reprinted with permission from Pearson Co., a division of Lane)

The jacquard weaving method is a means of combining threads of several colors into patterns or designs. Because the designs are actually woven into the material, the pattern is the same (but in reverse colors) on the back of the fabric.

Brocade, damask, and *matelassé* are specialty fabrics woven on jacquard looms. Brocade has a noticeably raised design resembling embroidery and may or may not be multicolored. The fabric isn't reversible. Brocades are elegant fabrics most often reserved for upholstery or draperies in very formal or period settings. The stool in Figure 13 is covered with brocade.

FIGURE 13—The design in the brocade fabric on the stool in this photo was created with threads of the same color.

Damask, on the other hand, is reversible. The damask design, which is flatter than brocade, is reversed in sheen and/or color when the fabric is turned over. It's often used for table linens, flat upholstery, and draperies. The sofa and chair in Figure 14 are covered in damask.

FIGURE 14—Damask in Upholstery Fabric (Photo courtesy of Thomasville Furniture Industries)

Matelassé (mat-las-SAY) is a double-woven structure composed of two layers of fabric. It has an embossed padded surface resembling stitched quilting. Because of its structure, matelassé is an excellent fabric for upholstery.

Knit Fabrics

Knit fabrics are made by interlocking loops of yarn rather than by interlacing perpendicular strands through weaving. Because they can easily be stretched out of shape, knits are almost never used for upholstery. However, *tricot,* a lightweight knitted fabric, is frequently used for curtains where light, but not view, is desired.

Tricot is the French word for *knit.*

In the next section, you'll begin to examine fabric textures and designs. First, please complete *Self-Check 2.*

Self-Check 2

1. What is slub yarn and in what fabric would you find it?

   _____

   _____

2. Why wouldn't you use a bouclé fabric for upholstery, even for pillow covers?

   _____

   _____

3. Why are knit fabrics never used for upholstery?

   _____

   _____

4. What fabric is produced when the loops of a pile weave are cut?

   _____

   _____

Check your answers with those on page 53.

FABRIC TEXTURE AND PATTERNS

Texture

Is a fabric smooth or rough? How tightly or loosely is it woven or knit?

Is it thick or thin? All of these questions relate to the texture of fabric. Don't confuse texture with pattern or style. *Texture* refers to the surface appearance and the feeling of a fabric to the touch. It may be smooth, bumpy, scratchy, pitted, soft, hard, sleek, spongy, or rough. Texture can be created by the yarn, by the weave, or by both.

Texture is a serious consideration in selecting fabrics. When you examine a small fabric swatch in an upholsterer's book, keep these points in mind:

1. Texture darkens a fabric's color. Just as paint applied to a highly textured wall appears darker than the same color applied to a smooth wall, fabrics of the same color appear darker as texture increases. This darkening occurs because the roughness of the texture casts shadows. Therefore, when viewing a sample of highly textured fabric lying flat on a table under direct lighting, realize that it will always look darker when it's made up as upholstery or draperies. Sometimes this color difference is of little consequence, but in other situations, it can be important. When selecting textured materials, ask to see a bolt of fabric and then hold it up in gathers (for draperies) or wrap a long length over the back and seat of a convenient chair or sofa to test the finished color effect for an upholstered item.
2. Texture takes up visual space, thereby making an object appear smaller. The greater the texture, the smaller the object appears. If you wish to make a small chair appear larger, choose a smooth-textured fabric. The chair will appear even larger if you select a solid pale color. If you want a large chair or sofa to appear smaller, choose a rough-textured fabric.

3. Hard, shiny surfaces appear larger than dull ones. A sofa covered in blue sateen or satin appears larger than the same sofa covered in blue wool. In fabrics, shiny surfaces appear to expand, while flat surfaces appear to contract. A shiny fabric or a very dull one looks even darker or lighter when viewed on a sofa or drapery rather than as a small sample lying flat under overhead lighting. Make sure to experiment with a large piece of fabric before placing an order.
4. Fabrics with visible textures must be considered patterned when planning your decorative scheme. There are only two kinds of lines: straight and curved. When you're planning a mixture of straight and curved lines in a room, you must consider heavily textured fabrics as curved when the texture pattern is varied (as in damask and brocade) and straight if the pattern casts shadows in straight lines (cut velvet and corduroy, for example). If texture isn't obvious and the fabric is a solid color, you need not be concerned about including the material in your straight-line, curved-line consideration.

The type of fabric you choose for a decorating project depends on the appearance of that fabric. Silk isn't simply silk, nor is cotton always just plain cotton. The texture of a fabric and the way it takes shape depend on the size of the fiber, how it's woven, and sometimes how various basic fibers are combined. Table 2 presents some, though not all, of the fabric derivatives with which you, as an interior decorator, should become familiar.

Patterns

Before you begin the search for a suitable fabric, you may have an image of the style, color, and even the specific design you require in a fabric for a particular room. It also can be important to consider the differing effects upon the room depending on how that pattern is applied to the fabric.

Table 2

BEYOND THE BASICS—A GUIDE TO VARIOUS FABRIC TYPES

Cotton

batiste
broadcloth
brocade
brocatelle
buckram
calico
chintz
corduroy
cretonne
damask
denim
dotted Swiss
frieze
fustian
gingham
haircloth
marquisette
matelassé
monk's cloth
muslin
percale
sailcloth
seersucker
shantung
tricot
velour
velvet
voile

Linen

cretonne
damask
haircloth

Silk

brocade
chassis
chiffon
china silk
damask
frieze
marquisette
matelassé
raw silk
sateen
satin
shantung
taffeta
velvet

Synthetics

acetate triacetate
acrylic
nylon
- marquisette

polyester
rayon
- brocatelle
- challis
- chintz
- corduroy
- crepe
- cretonne
- damask
- frieze
- marquisette
- matelassé
- satin
- seersucker
- shantung

tricot

Wool

brocade
camel's hair
cashmere
challis
crepe
damask
vicuna
worsted wool

Woven Patterns

Very ornate patterns can be woven into fabrics by alternating yarn colors. Or, more subtle patterns can be achieved by using yarns dyed the same color but in different sizes. The jacquard weaving method, discussed earlier, is the most common way to achieve a woven pattern.

Patterns can also be woven into fabric by reversing the weave, looping the yarns, or weaving tightly in some areas and loosely in others.

Woven patterns generally lend a fairly subtle, rich look to a room, if the fabric is chosen well. Figure 15 shows a small section of fabric with a plaid pattern woven into it.

FIGURE 15—Woven Pattern

Stitched Patterns

Embroidery, appliqué (ap lih KAY), and quilting are methods of producing fabric designs by stitching. *Embroidery* (Figure 16) isn't part of the basic fabric; rather, it's added to embellish the cloth. Most upholstery fabrics are embroidered with heavy yarn; the result is called *crewel.* Crewel-embroidered fabrics typically come from India and Mexico.

FIGURE 16—Embroidery Pattern

Appliqué is similar to embroidery, since it's also added to an existing fabric. Appliquéd designs (Figure 17) involve attaching fabric designs to the surface of a background cloth by sewing or gluing. A spectacular effect can be created by having a piece of the prominent design of fabric used elsewhere in the room cut out and applied to plain cushions or pillows. Appliqué generally lends itself to casual room treatments.

FIGURE 17—Appliqué Pattern

Quilting (Figure 18) involves two layers of cloth with a soft layer of filling material between them. Stitching joins the three layers and produces a puffy surface design. Quilting is suited to many styles, colors, prints, and types of fabric. Therefore, it's popularly incorporated into many styles of interiors—just about anywhere that added texture is needed.

FIGURE 18—Quilted Pattern

Printed Designs

The most common method of applying colorful patterns to a fabric is to print the colors, one at a time, onto a solid-colored textile. Modern mechanized methods make the process quick and easy. How well the colors stay on the fabric and how intricate and well-defined the pattern is depend on the ability of the fabric to absorb dye, the quality of the dye itself, and the skill of the coloring technicians. As a rule, the more intricate and colorful the pattern, the more expensive the fabric. Color, style, and quality are the considerations when selecting from machine-made prints. Figure 19 illustrates how printed designs can be used in a room.

FIGURE 19—A colorful printed fabric is used in the upholstered chair in the foreground and repeated in the window treatment and the tablecloth in the background.

Block prints. Wood or linoleum blocks are carved and inked so that they'll leave their print on the surface of the fabric when pressed against it. This printing procedure is time-consuming, because the inking and printing must be repeated until the entire area has been covered.

Since block printing is essentially a hand operation, it can be quite expensive. Effective primitive prints are often produced in this way. Much of today's apparent block printing is actually done by machine but is designed to resemble the beautiful old block-printed fabrics. While designs are generally primitive and limited to a single color, the effects can be splashy, dramatic, and exciting to use in an appropriate decor.

Screen printing. The screen-printing process uses patterned stencils through which ink is forced onto the fabric. Colors are generally applied one at a time, making the process time-consuming and expensive when done by hand. However,

screen-printed patterns are valued for their clarity of colors, sharp patterns, and custom designs. Many fabrics are screen-printed by hand to match paper wallcoverings.

The screen-printing process has been automated to some extent, but it's still more costly (and usually of higher quality) than other machine printing. Screen printing is the method to seek when you want custom designs printed on various surfaces for a particular job—whether on wallcoverings, fabric, linens, tiles, or decorative accessories.

Roller printing. The most common machine method of printing textiles is roller printing, which is based on the block-printing concept. Patterns are formed on large rollers, with a separate roller for each color. The dyes are transferred onto the fabric as it travels through a series of rollers.

Some patterns are excellent, depending on the quality of the dye and the absorbency and weave of the fabric. Because roller-printed fabrics can be easily and quickly mass-produced, they're made in larger volume than hand-screened designs and are, therefore, far less expensive.

In the last section of this study unit, you'll study some factors you should consider when selecting fabrics for a decorating job. Before you go on, please complete *Self-Check 3.*

Self-Check 3

1. Which method of printing is used to match fabrics with wallcoverings?

   _____

2. What are the two types of lines in fabric patterns?

   _____

   _____

3. How does the texture of a fabric affect its color?

   _____

Check your answers with those on page 53.

DECORATING WITH FABRICS—WHAT TO CONSIDER

As a decorator, you may encounter a client who wants to have an item covered with fabric—for example, a couch, a screen, a wall, or a headboard. Decorating today includes using fabric for many items other than curtains and bedspreads. In this section, you'll examine fabric widths, durability considerations, thread count, fade resistance, the S factors (style, scale, and shape), fabric performance, yardage requirements, and fabrics on walls.

Fabric Widths

Fabrics come in bolts of many different widths:

42 in. (inches)
45 in.
48 in.
50 in.
54 in.
60 in.
68 in.
72 in.

The available width may sometimes affect your choice of fabric. For example, sometimes you may need an extra-wide fabric for pattern repeats or for good placement of seams on the item to be constructed. If you select a fabric in a narrower width, you may increase fabric costs considerably. Always remember to check width specifications.

Durability

Think about whether the fabric will be used in an area that receives heavy traffic. Furniture pieces and draperies that will have heavy daily use must be made of durable, tightly woven fabrics. Fabrics that have a pattern woven in typically wear better than fabrics with a print.

Thread Count

An important consideration is the thread count of a fabric. The higher the thread count, the better the fabric will wear because it's more tightly woven. (*Thread count* refers to the number of threads in every square inch of the fabric.)

Fade Resistance

When choosing a fabric, consider how much of it will be exposed to direct sunlight. Some fabrics offer greater sunlight resistance than others. Be sure to choose them accordingly. When a fragile fabric will be exposed to sunlight, you may recommend tinted or ultraviolet ray–protected glass in windows near that fabric.

The "S" Factors

When selecting a fabric pattern for furniture upholstery, consider the three "S" factors: *style, scale,* and *shape.* All of these factors are important for determining the perfect fabric.

Style. The style of a pattern should be in keeping with the style of the furniture. Obviously, a bold art deco design would be inappropriate on French Provincial furniture. More subtle style agreements should be considered. Table 3 gives a general guide to different types of fabrics that are appropriate for various period styles. While using these fabrics will help to create authentic period styling, you need not always stick to the "rules." Your own sense of style will lead you to original combinations when authenticity isn't most important.

Table 3	
PERIOD STYLES AND FABRICS	
Period	**Appropriate Fabrics**
Tudor	Velvet, brocade, needlework, crewel embroideries, linen, damask, Jacobean tapestry
Spanish Renaissance	Velvet, damask, embroidered linen, tapestry
William and Mary, Queen Anne, and Dutch	Velvet, brocade, needlework, crewel embroideries, linen, damask, tapestry
Early Georgian	Velvet, brocade, needlework, crewel embroideries, linen, damask, Chippendale tapestry
Late Georgian (Adam, Hepplewhite, and Sheraton)	Damask, brocade, velour, satin, taffeta, toile de Jouy, chintz
French Provincial	Chintz, linen, velvet, tapestry
Louis XVI	Silk, satin, taffeta, brocade, damask, toile de Jouy, velour, chintz, tapestry
Early Colonial	Velvet, brocade, needlework, crewel embroideries, linen, silk, damask, tapestry
Late Colonial	Linen, chintz, velour, damask, toile de Jouy
Victorian	Velvet, brocade, damask, needlework

Scale. The fabric design should also be scaled to the furniture piece. Large patterns can overpower some pieces. For example, a 24 in. pattern would be absurd on a small bedroom chair. On the other hand, extremely small patterns can look either lost or too busy on a large sofa, especially if the print incorporates several colors.

Shape. When selecting fabric for a particular piece of furniture, make sure the pattern you choose is appropriate for the shape of the piece (Figure 20). For example, a chair that has many curves generally requires a pattern with equally soft lines. Apply to your selection of fabric the same guidelines regarding line, pattern, and color that you would use for selecting wallcoverings and floor coverings.

FIGURE 20—Choose upholstery fabrics carefully, keeping the shape of the furniture piece in mind.

When mixing patterns (prints, stripes, plaids, geometrics, and solids), choose the fabric with the boldest design as an anchor fabric. Then coordinate two or three other fabrics that share colors with the anchor fabric. You may also use a solid fabric with contrasting trim or welt.

Fabric Performance

In addition to the various types and styles of fabrics that you select for use on upholstered furniture, slipcovers, bedcoverings, and window treatments, you must also consider how well the fabric will wear, or perform its duty. Fabrics are tested to determine their suitability for various uses.

One of the best ways to determine the suitability of a fabric is to study its tag. Most upholstery fabrics include a tag with information pertinent to an interior decorator. Here's some of the information you may find on such tags:

- *Name.* Generally an upholstery tag indicates the name that the manufacturer has given to a particular fabric and pattern.
- *Wear code.* A wear code indicates how well a fabric will wear based on a test called the *Wezenbeek rub test.* This test is an abrasive test that indicates how long the fabric will last before it breaks down. The higher the wear code, the stronger the fabric. Obviously, a stronger fabric, or one with a higher wear code, would be more appropriate for a family room with children and pets than a fabric with a lower wear code. Each fabric manufacturer has a slightly different way of tagging their fabric, although all have some type of wear code.
- *Width.* The fabric width is generally indicated in inches—for example, 54″.
- *Grade.* The grade of a fabric is generally an indication of how complex the material is. Grades vary from manufacturer to manufacturer, but they usually run from A (the least expensive grade) to F (the most expensive grade).
- *Cleaning code.* A cleaning code indicates recommended methods for cleaning a fabric. The best way to approach cleaning is to check with the manufacturer. Most fabrics today are treated so that dirt and spills don't penetrate the fabric.
- *Pattern repeat.* Generally, an upholstery tag indicates the size of the pattern repeat. For example, a pattern repeat of 7 in. means that every 7 in. the pattern begins again—that is, it repeats itself. Usually, a pattern repeat is given for both horizontal and vertical repeats.

- *Railroading.* To understand railroading, you must first know that the regular way to design a pattern in fabric is to place it across the fabric (from *selvage* to selvage), as shown in Figure 21A. A railroaded pattern runs along the fabric, as shown in Figure 21B. In other words, railroaded fabric can be placed horizontally, or sideways, on a piece of furniture. This procedure eliminates many seams, creates a different look, and can also save yardage. Many stripes and miniprints are printed with the railroading process.

- *Content.* An upholstery tag should indicate what the fabric is made of. For example, you may see a tag that reads 100% cotton or one that reads 100% polyester; for blends, you may see a tag that reads 40% acrylic, 31% rayon, 29% polyester.

A *selvage* is the finished edge on each side of a bolt of fabric. The finished edge prevents the edges from unraveling.

An upholstery tag can reveal much information regarding a particular fabric. However, if you have any questions, always contact the manufacturer to clarify any doubt.

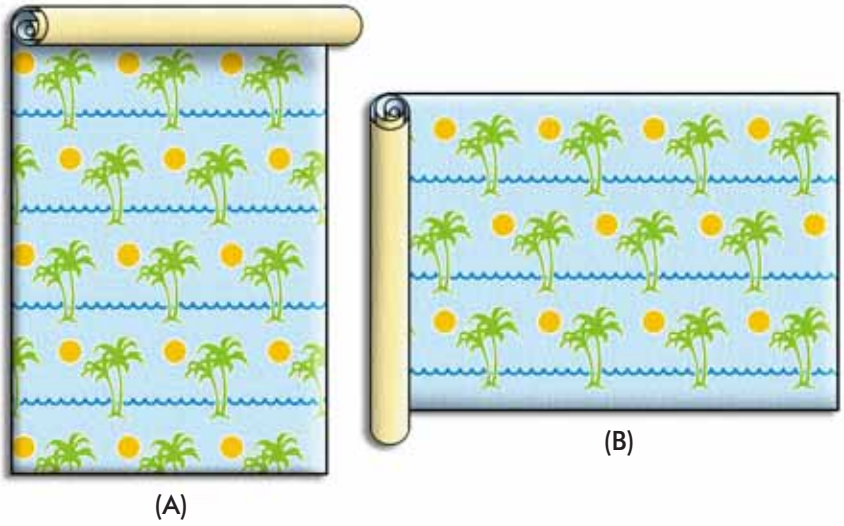


FIGURE 21—The regular way to run a design on fabric is shown in view A. A railroaded pattern, which runs along the bolt of material, is shown in view B.

What Is This Fabric?

The *burn test* is one of the simplest tests used to identify unknown fabrics. Fabric stores use this test when they must determine the nature of the fibers in a fabric. Some fabrics ignite; others melt. The test should be conducted only by professionals who know how to interpret the results. For more information, see

www.fabrics-manufacturers.com/

and look for the fabric identification table.

Estimating Yardage Requirements

A pattern in fabrics, like a pattern in a wallcovering, becomes a factor in determining the yardage required. Although it may take a yard of fabric to cover a certain area, it may take much more than a yard to cover it properly if a design must be centered, if a pattern repeat must be considered, or if matching a pattern exactly at the seams must be calculated.

Upholstery and slipcover material must be purchased in sufficient quantity to allow centering of large scenic or floral designs. Plaids and stripes should be measured for matching along the seams just as carefully as a repeat pattern would. Small, overall designs aren't always matched, however.

Having an idea of how much fabric is needed for a particular job can help you and your client choose between fabrics, and you'll also have an idea of how much the job will cost. For example, suppose a client with a limited budget has chosen an expensive fabric with a large design repeat. Because the large repeat will probably require purchasing extra fabric, the price may be rather high. In such a case, you should probably encourage the client to select a different fabric. Suggest that he or she choose a similar, less expensive fabric or one with a smaller pattern repeat.

When choosing fabric for an upholstered piece, refer to a yardage chart like the one in Table 4. Such a chart is only a rough guide, however, because designs usually have to be centered on the backs of chairs and sofas, and welting or skirts require extra material.

Table 4

UPHOLSTERY YARDAGE ESTIMATE CHART

Piece	Cushions	Plain 48″ fabric*	Patterned or Striped 48″ fabric*	Welting or Trim
Sofa (6 to 7 feet)	2 to 3	14 yards	15 yards	36 yards
Three-foot sectional				
One arm	1	$6\frac{1}{2}$	7	25
No arm	1	5	6	20
Four-foot sectional				
One arm	1	$9\frac{1}{2}$	10	28
No arm	1	8	9	22
Five-foot sectional				
One arm	—	$10\frac{1}{2}$	$10\frac{1}{2}$	31
No arm	1	9	9	24
Sofa bed	2	$14\frac{1}{2}$	16	40
Love seat	2 (small)	$10\frac{1}{2}$	12	24
	1 (large)	$10\frac{1}{2}$	11	23
Armchair	0	$8\frac{1}{2}$	$9\frac{1}{2}$	14
Club chair	1	$7\frac{1}{2}$	$8\frac{1}{2}$	18
Wing chair	1	8	$8\frac{1}{2}$	18
Chaise lounge	2	11	12	23
	1	10	11	20
	0	8	9	16
Ottoman	0	2	$2\frac{1}{2}$	6
Cushion (average chair)	—	$1\frac{1}{4}$	$1\frac{3}{4}$	5

**For 54 in. fabric, reduce yardage 10% for solids and 5% for patterns and stripes. Add allowance for repeats of 12 in. or more.*

Although an upholsterer should take the final, exact yardage measurements before you order fabric, you can come up with a reasonable estimate that allows for pattern repeats, skirts, extra pillows, and arm covers. Leave final measurements to the people who do the upholstering. They work with these measurements every day and are therefore much more familiar with the requirements than you would be. Also, if a mistake is made in measuring or ordering, it's better for it to be clearly the upholsterer's responsibility than yours. This practice keeps the cost from coming out of your own pocket if material must be reordered and the job done over.

Decorators are very frequently asked to have bedspreads custom-made. In such cases, the spread will be made for your exact requirements, so measure carefully. When measuring the bed, ask your client to make up the bed with the bedding that the spread will cover. Then, use this procedure to measure for the bedspread:

1. Measure the distance to the floor from the top of the bedding. This measurement is called the *drop.*
2. Because there's a drop on each side of the bed, double this figure.
3. Measure the width across the bed and add this measurement to the drop measurement. The total of the top width, plus double the drop, will be the width of the finished bedspread.
4. Make a note of whether or not allowances were added to your figure for hems and seams.
5. Measure the length of the bed.
6. To the length, add one drop measurement for fabric at the foot and another 30 in. for tucking under and over the pillows at the head of the bed.
7. Note if your measurements include hems.

Figure 22 illustrates the measurements needed for a custom-made bedspread.

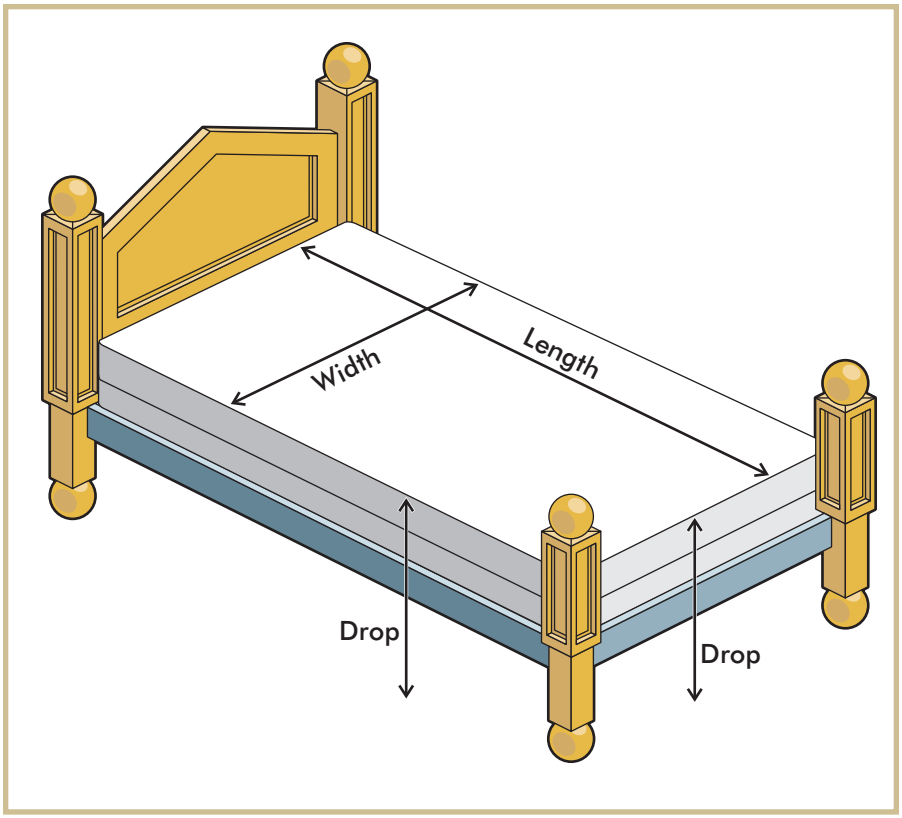


FIGURE 22—This illustration shows the measurements for a custom-made bedspread. Be sure the bed is completely made before you begin to measure.

Bedspreads should have no seams other than those running lengthwise. Therefore, yardage requirements must be determined according to the width of the fabric and the number of lengths necessary.

If ruffles or pleats are planned for the edge of the spread, allow double the bedspread length or width for the ruffle strip. Decorative pillows are often used on beds as well as on sofas. Remember to include extra fabric in your yardage estimate when planning for matching pillow *shams* (covers).

Aside from bedspreads, a client may ask you to cover a screen or a headboard with fabric. You can learn the method to do this process yourself, or you can have an upholsterer do it for you. Figure 23 shows a headboard covered in fabric to match the bedspread. Because this fabric-covered look is very popular in decorating, you should be able to estimate how much fabric will be needed. Tables 5 and 6 are guidelines for estimating fabrics for screens and headboards.

FIGURE 23—This headboard is covered in the same fabric as that in the window treatment.

Table 5

FABRIC ESTIMATES FOR FABRIC-COVERED SCREENS

			Yardage:		
	Height	**Width to**	**One door**	**Two doors**	**Three doors**
Plain fabrics	48″ to 72″	18″	2 yd. + 1 rep. *	5 yd. + 1 rep.	7 yd. + 1 rep.
	73″ to 120″	18″	3 yd. + 1 rep.	7 yd. + 1 rep.	10 yd. + 1 rep.
Printed fabrics	48″ to 108″	18″	3 yd. + 1 rep.	7 yd. + 1 rep.	10 yd. + 1 rep.
	73″ to 120″	18″	4 yd. + 1 rep.	9 yd. + 1 rep.	13 yd. + 1 rep.

**Rep. indicates fabric repeat.*
For each additional door, add the yardage for one door.
Add 20% for paper wallcoverings.
Double all yardage requirements for doors over 18 in.

Table 6		
FABRIC ESTIMATES FOR FABRIC-COVERED HEADBOARDS		
Size	**Width × Height**	**Yardage—Number of Lengths (1 repeat each length)**
Twin	39 × 24 33 × 36	2 lengths and 1 repeat
Full	54 × 24 54 × 36	3 lengths and 1 repeat
Queen	60 × 24 60 × 36	4 lengths and 1 repeat
King	78 × 24 78 × 36	5 lengths and 1 repeat

Note:

- *Add 50% for each overlay.*
- *Cut length = height of headboard.*
- *Add 1 yd plain with quilted yardage.*

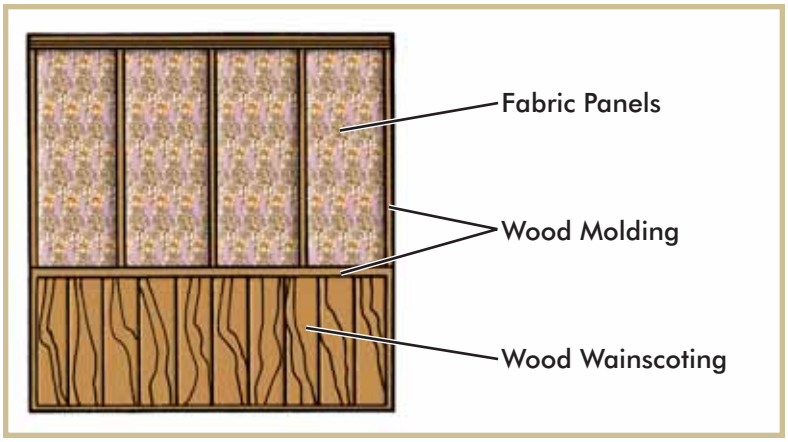
Covering Walls with Fabric

Fabric is sometimes used as a wallcovering instead of wallpaper. Some fabrics are actually paper-backed and can easily be hung by a regular wallcovering installer. Such *backed fabrics* are found through paper wallcovering sources. However, if you want to repeat an upholstery pattern that isn't available as a wallcovering, you'll have to use your fabric for the walls. Most good wallcovering installers can handle this type of job.

Unbacked fabric, if sufficiently heavy and nonabsorbent, can be pasted and hung just like paper. This procedure is highly risky, however, unless the wallcovering installer is experienced in the art. Therefore, most decorators prefer to have fabrics hung by attaching them to either wood or Velcro strips.

In the first method, 1 in. × $^{1}/_{4}$ in. wood strips are nailed horizontally to the wall just below the ceiling and next to the floor. Vertical strips are added where edges (or seams) of the fabric will fall. The fabric is then stretched tight and stapled from top to bottom. Decorative strips of high-quality wood molding, usually painted to match the room's molding or basic wall paint, are then added to disguise seams and cover staples for a custom look. Figure 24 illustrates a wall covered with fabric and finished with decorative strips.

FIGURE 24—Fabric-Covered Wall



The use of urethane foam (usually $^{1}/_{2}$ in. thick) between walls and fabric can make covered walls look elegant and, at the same time, provide excellent soundproofing. For this reason, foam and fabric–covered walls provide excellent problem-solving beauty in apartments or condominiums. When planning fabric-covered walls, keep in mind the same rules you would use in planning walls with paper wallcoverings. However, also remember these considerations:

- Never cover a wall with fabric that requires frequent cleaning or receives abnormal wear. Kitchens and stairways are good examples of areas in which to avoid using fabrics on walls.
- Be certain that fabric is treated with a fire retardant.
- Never add fabric to a wall that's exposed to excessive moisture. For example, bathrooms can generate large amounts of moisture as steam. Such moisture is held by fabric, especially natural fibers. In such cases, mildew is a frequent problem.

To determine fabric yardage for covering walls, measure the width of the wall space to be covered. Divide that figure by the width of the fabric to be used to determine how many fabric widths are needed. Multiply the number of widths by the height to get total inches. Divide by 36 (the number of inches in a yard) to arrive at the yardage requirement. Be certain to allow for pattern repeats when necessary.

Practice Exercises

Exercise 1

The Robert Allen Group is a source of a wide selection of fabrics used by interior decorators. Visit their Web site at **http://www.robertallendesign.com** and look at some of the fabrics they offer. Pay particular attention to the information they provide regarding such factors as fabric with, pattern repeat, content, and cleaning information.

Note: Do not submit your answers to these exercises. They're for your benefit only.

Exercise 2

Reading about fabrics and learning about their characteristics is an important element in your education. However, seeing and touching fabrics can be very beneficial to you. Visit large fabric stores that carry upholstery fabric and large furniture stores that have sample fabrics available. If you live near a large city, look for a fabric supply company and visit their place of business.

- Examine a variety of fabrics. Touch them to see how they feel.
- Look at the tags to see what the fabrics are made of.
- See what other information the tags provide.
- If someone is available, ask questions about particular fabrics that interest you.

A hands-on examination of fabrics will go a long way in your education as an interior decorator.

Self-Check 4

1. In estimating yardage for a bedspread, how much fabric width would you allow for a ruffle?

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2. Explain the most preferred procedure for covering walls with fabric.

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   _____

   _____

3. What is a railroaded pattern?

   _____

   _____

4. List the appropriate fabrics you would use to cover a Victorian chair.

   _____

   _____

Check your answers with those on page 54.

Answers

Self-Check 1

1. Natural-fiber fabrics would be the best choice for beautiful color. These fabrics are highly absorbent and accept dye better than synthetic fabrics.
2. A worsted wool fabric is produced from yarns to remove short, loose fibers. The yarn is firmer, tougher, and thinner than woolen yarns. It's also less bulky, smoother, and stronger than nonworsted fabrics.
3. Linen is considered to be the strongest of all natural-fiber fabrics.
4. Polyester blended into a natural-fiber fabric makes the fabric more durable.
5. You can expect a wool fabric that contains acrylic to cost less than a 100 percent wool fabric. The addition of acrylic also makes the fabric easier to care for.

Self-Check 2

1. The strands of slub yarn are twisted to uneven thicknesses, resulting in a fabric with an irregular surface. Haitian cotton is an example of a slub yarn fabric.
2. Because of its loose loops, bouclé fabric is too easily snagged to be of practical use as upholstery.
3. Knit fabrics are never used for upholstery because they easily stretch out of shape.
4. Velvet, velour, or plush fabrics are produced when the loops of a pile weave are cut.

Self-Check 3

1. Screen printing is used to match fabrics with wallcoverings.
2. The two types of pattern lines are straight and curved.
3. Texture in a fabric tends to darken its color.

Self-Check 4

1. For a bedspread ruffle, allow for fabric twice the width of the area to which the ruffle will be attached.
2. Nail 1 in. × 1?4 in. wood strips horizontally to the wall just below the ceiling and next to the floor. Add vertical strips where edges (or seams) of the fabric will fall. Stretch the fabric tight and staple it from top to bottom. Add decorative strips of high-quality wood molding to cover the staples for a custom look.
3. A railroaded pattern is one that runs along the length of a bolt of fabric rather than across its width.
4. Velvet, brocade, damask, or needlework fabrics would be appropriate.